1 Introduction

This paper references the work of Bruce Cathie by way of the French Meter and its conversion to minutes of arc per grid second. The discovery of minutes of arc per grid second is credited to Bruce Cathie. [1].

2

> *"I theorise that space and time manifest from the geometric harmonies of the wave motions of light—the maximum fundamental harmonic of light, in geometric terms, being an angular velocity of 144,000 minutes of arc per grid second, to the Earth's surface and there being 97,200 grid seconds to one revolution of the earth;*
>
> *There are twenty-four hours of normal time to twenty-seven hours of grid time."*

—Bruce Cathie [1]

3 The French Metre and Grid Time

Defined as one ten-millionth of the distance of the earths meridian passing from the north pole to the earths equator through the city of Paris (the French meter), the earths meridian is now defined as being 180° in length. Substituting 90° for one quarter of the Earth's meridian in place:

$$90^\circ = \ 5,400 \ min.\ arc \tag{1}$$

where min. arc is minutes of arc.

$$\frac{1}{5,400} \times 10,000,000 = 1851.851851... \tag{2}$$

One minute of arc as one international nautical mile is 1,852 meters in length for which 1851.851851... meters is substituted. Utilizing 300,000 km/s in place of 299,792.458 km/s for c:

$$\frac{300,000 \ km/s}{1.851851...} = 162,000 \ min.\ arc \ / \ s \tag{3}$$

$$162,000 \ min.\ arc \ / \ s \ \times \ \frac{8}{9} = 144,000 \ min.\ arc \ / \ grid \ sec. \tag{4}$$

where grid sec. is grid seconds (Cathie). One degree is 60 minutes of arc, is 3,600 seconds of arc and 60 nautical miles. To convert one second of normal time to one second of grid time multiply by eight and then divide by nine. The velocity of c is currently given as 299,792.458 km/s.

References

[1] Bruce L. Cathie. *Harmonic 695*. Reed, 1972.